

REMARKS

Claims 1-12 are pending.

Claims 9-12 have been withdrawn from consideration.

Claims 1-8 stand rejected.

Claims 4 and 8 have been canceled, without prejudice.

Claims 1 and 5 have been amended. Support for these amendments can be found throughout the specification and drawings, as originally filed.

SPECIFICATION

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

The Applicants submit herewith an abstract of the disclosure at the last page of the instant response.

35 USC §102(b) REJECTION

Claims 1-8 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,882,159 to Muller.

The Applicants respectfully traverse the 35 U.S.C. §102(b) rejection of claims 1-8. The Applicants note that claims 4 and 8 have been canceled, without prejudice, and the subject matter thereof substantially incorporated into independent claims 1 and 5, respectively.

The law is clear that anticipation requires that a single prior art reference disclose each and every limitation of the claim sought to be rejected. 35 U.S.C. 102(b).

The law is also clear that a claim in dependent form shall be construed to incorporate all the limitations of the claim to which it refers. 35 U.S.C. 112, fourth paragraph.

In the interests of expediting prosecution of the instant application, and without admission that any amendment is required, the Applicants have amended claim 1 to recite, among other things, a method of forming a sealed female fastener and panel assembly, said female fastener including an annular pilot portion having an annular end face, a bore extending through said pilot portion through said end face, an annular flange portion surrounding said pilot portion having an annular end face parallel to said end face of said pilot portion, and an annular groove in said flange portion having a bottom wall and relatively inclined side walls including an outer side wall and an inner side wall inclined radially outwardly from adjacent said bottom wall, said method comprising the following steps: (1) driving an annular lip of a die member against a panel engaging said annular end face of said pilot portion, said annular lip having an inner diameter less than an outer diameter of said annular end face of said pilot portion and an outer diameter less than an inner diameter of said outer side wall of said annular groove, thereby piercing a slug from said panel having a diameter less than said outer diameter of said annular end face of said pilot portion and forming an opening through said panel; (2) continuing to drive said annular lip of said die member against a panel portion surrounding said opening in said panel and against an outer periphery of said annular end face of said pilot portion, thereby shaving an annular outer portion of said pilot portion against an inner portion of said panel portion; and

(3) continuing to drive said annular lip of said die member against said panel portion and said annular outer portion of said pilot portion and deforming said pilot portion against said bottom wall of said annular groove, thereby deforming said panel portion radially inwardly and outwardly *so as to form a portion on said pilot portion extending into said panel portion*, thereby entrapping said panel portion in said annular groove and sealing said female fastener on said panel.

In the interests of expediting prosecution of the instant application, and without admission that any amendment is required, the Applicants have amended claim 5 to recite, among other things, a method of forming a sealed female fastener and panel assembly, said female fastener including a generally cylindrical pilot portion having an annular planar end face, a bore extending through said pilot portion through said annular planar end face, an annular flange portion surrounding said pilot portion having an annular end face parallel to said end face of said pilot portion, and an annular groove in said flange portion having a bottom wall and relatively inclined side walls including an outer side wall inclined inwardly from said bottom wall toward said pilot portion and an inner side wall inclined radially outwardly from adjacent said bottom wall toward said flange portion, said method comprising the following steps: (1) driving an annular lip projecting from a die member through an opening in a panel supported on said annular end face of said flange portion, said annular lip having a generally planar annular end face, a generally cylindrical inner surface having an inner diameter less than an outer diameter of said annular end face of said pilot portion and an outer diameter less than an inner diameter of said outer side wall of said annular groove; (2) continuing to drive said annular lip of said die member against said

annular end face of said pilot portion and an annular panel portion surrounding said opening in said panel, thereby shaving an annular outer portion of said pilot portion against said panel portion; and (3) continuing to drive said annular lip of said die member against said outer portion of said pilot portion and said panel portion against said bottom wall of said annular groove, thereby deforming said panel portion radially and deforming said annular outer portion of said pilot portion against said panel portion *so as to form a portion on said pilot portion extending into said panel portion*, thereby entrapping said panel portion in said annular groove and sealing said female fastener on said panel.

Muller teaches no such methodology of the present invention, as claimed in any of independent claims 1 and 5, or the claims dependent therefrom.

Specifically, Muller fails to teach, among other things, that the pilot portion is deformed in such a manner so as to cause a portion thereof to extend into the panel portion, e.g., as specifically shown in Fig. 6 of the instant application. For example, referring to the left side of Fig. 1 of Muller, the two planar surfaces of the pilot portion and the panel portion appear to be merely abutting against one another, rather than a portion of the pilot portion extending into the panel portion, as presently claimed.

Because claim 1 is allowable over Muller for at least the reasons stated above, claims 2 and 3, which depend from and further define claim 1, are likewise allowable. Because claim 5 is allowable over Muller for at least the reasons stated above, claims 6 and 7, which depend from and further define claim 5, are likewise allowable.

Accordingly, the Applicants contend that the 35 U.S.C. 102(b) rejection of claims 1-3 and 5-7 has been overcome.

Furthermore, the Applicants submit that Muller does not render claims 1-3 and 5-7 obvious.

The standard for obviousness is that there must be some suggestion, either in the reference or in the relevant art, of how to modify what is disclosed to arrive at the claimed invention. In addition, "[s]omething in the prior art as a whole must suggest the desirability and, thus, the obviousness, of making" the modification to the art suggested by the Examiner. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 U.S.P.Q.2d (BNA) 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). Although the Examiner may suggest the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the desirability of such modification. *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q.2d (BNA) 1397, 1398 (Fed. Cir.1989). There must be a teaching in the prior art for the proposed combination or modification to be proper. *In re Newell*, 891 F.2d 899, 13 U.S.P.Q.2d (BNA) 1248 (Fed. Cir. 1989). If the prior art fails to provide this necessary teaching, suggestion, or incentive supporting the Examiner's suggested modification, the rejection based upon this suggested modification is error and must be reversed. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d (BNA) 1566 (Fed. Cir. 1990).

As previously noted, Muller does not suggest that the pilot portion is deformed in such a manner so as to cause a portion thereof to extend into the panel portion, e.g., as specifically shown in Fig. 6 of the instant application. For example, referring to the left side of Fig. 1 of Muller, the two planar surfaces of the pilot portion and the panel portion appear to be merely abutting against one another, rather than a portion of the pilot portion extending

into the panel portion, as presently claimed. This is likely due, at least in part, to the configuration of the die button 12 that is used to mate the element 10 with the sheet metal part 16. The die button 16 includes a “shouldered” profile that includes a “tooth” region 56 that while being suitable for deforming a portion of the pilot portion is not capable of forming an extending portion on the pilot portion, as presently claimed, most likely due to the fact that the cylindrical projection 38, being much longer, limits the overall travel path of region 56. Additionally, Muller is only concerned with “surrounding” the sheet metal part 16 with the material of the element 10, as evidenced by the following passage from Muller, at column 8, lines 8-13:

The material 58, which was displaced at this location and also at two further positions downwardly and radially outwardly, ensures that the material in the region 60, i.e., in the region of the undercut 27 is fully surrounded by the material of the hollow element 10, such that a loosening at these three positions is substantially more difficult than in the prior art.

There is no discussion in Muller of creating an extending portion on the pilot portion, and as discussed above, it would be impossible to do so given the respective configurations of the available components. Thus, one of ordinary skill in the art would not look to Muller for guidance on a method of forming a sealed female fastener and panel assembly, as presently claimed.

Accordingly, the Applicants contend that Muller does not render claims 1-3 and 5-7 obvious.

CONCLUSION

The Applicants respectfully submit that each item raised by Examiner in the Office Action of July 11, 2006 has been successfully responded to, traversed, overcome or rendered moot by this response. The Applicants respectfully submits that each of the claims in this Application is in condition for allowance and such allowance is earnestly solicited.

The Examiner is invited to telephone the Applicants' undersigned attorney at (248) 723-0487 if any unresolved matters remain.

Any needed extension of time is hereby requested with the filing of this document.

The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 08-2789.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS, P.C.

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Date

/PRESTON H. SMIRMAN/
Preston H. Smirman, Reg. No. 36,365
The Pinehurst Office Center, Suite #101
39400 Woodward Ave.
Bloomfield Hills, MI 48304-5151
(248) 723-0487